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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,527	02/19/2004	Zheng Zhang	MS1-1959US	3250

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EXAMINER	
LU, KUEN S	

ART UNIT	PAPER NUMBER
2167	

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/782,527	ZHANG ET AL.	
	Examiner	Art Unit	
	Kuen S. Lu	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/24/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Action is responsive to Applicant's Application filed February 19, 2004. Claims 1-27 are pending.

Information Disclosure Statement

3. Information Disclosure Statements filed May 24, 2004 is considered and corresponding PTO-1449 is electronically signed and attached.

Drawings

4. The drawings, filed February 19, 2004 are considered in compliance with 37 CFR 1.81 and accepted.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5.1. As set forth in MPEP 2106 (II) (A):

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.

Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See Arrhythmia, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some "real world" value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.

5.2. Claims 1-27 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

As per claim 1, the claimed invention represents a methodology of building data structure on top of a logical space. It is noted that building a data structure self does not produce useful or tangible result. The methodology is abstract because no useful or tangible result ensued. However, a tangible, concrete and useful result is required in a practical application test. The consequence is non-statutory.

As per claim 17, the claimed invention represents a methodology of passing data through data overlay and building data structure on top of a logical space. It is noted that passing data through data overlay or building a data structure by itself does not produce useful or tangible result. The methodology is abstract because no useful or tangible result ensued. However, a tangible, concrete and useful result is required in a practical application test. The consequence is non-statutory.

As per claims 2-14 and 18-22, which inherit deficiency of practical application requirements of independent claims 1 and 17, respectively, and are likewise, non-statutory.

As per claim 15, the claimed invention represents a data store having stored thereon a data structure, an overlay structure implemented on a logical space. It is also noted,

without an asserted or well-established utility of the data structure, the implementation of a data structure does not produce useful or tangible result. The implementation of data structure is abstract because no useful or tangible result shown. However, a tangible, concrete and useful result is required in a practical application test. The consequence is non-statutory.

As per claim 23, the claimed invention represents a system having an overlay structure implemented on a logical space. It is also noted, without an asserted or well-established utility of the data structure, the implementation of a data structure does not produce useful or tangible result. The implementation is abstract because no useful or tangible result shown. However, a tangible, concrete and useful result is required in a practical application test. The consequence is non-statutory.

As per claims 16 and 24-27, which inherit deficiency of practical application requirements of independent claims 15 and 23, respectively, and are likewise, non-statutory.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6.1. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pabla et al. (U.S. Patent Application 2004/0064693, hereafter "Pabla") in view of Xie ("B2P Systems Based on Distributed Hash Table", Ming Xie, Computer Science, University of Ottawa, September 26, 2003).

As per claim 1, Pabla teaches "A method for building a data overlay" (See Page 36, [0456] where virtual network overlay is established on top of physical network allowing peers to interact and organize their network location and connectivity), comprising:
"providing a distributed hash table (DHT) that governs the insertion and retrieval of objects into and from a peer-to-peer system" (See Page 6, [0085] and [0091]-[0092] where distribution index is a distributed hash table, peers are inserted into the index, and content is hashed for retrieving from or inserting into the index), "wherein the distributed hash table includes a logical space including a plurality of DHT nodes having an associated plurality of DHT zones" (See Fig. 35 and Page 4, [0070] where peers participating a distributed index include a hashing mechanism and zones for storing content); and
"building the data overlay as a data structure" (See Page 36, [0456] where virtual network overlay is established on top of physical network).

Pabla does not explicitly teach that the data overlay is built "on top of the logical space of the distributed hash table by associating objects in the data structure with the DHT nodes, and by establishing links between the objects in the data structure.

However, Xie teaches overlaying together of different topologies such as Chord rings networks at Page 6, lines 1-3 and further teaches logical space naming all peers where DHT is utilized to hash the name of a node and each node handles a portion of the hash space for storing certain range of keys serving as basis for object retrieval and storage at Page 4, items 4.1 and 4.2.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine the teaching of Xie with Pabla reference by overlaying topologies on top of logical space because both references are directed to peer to peer system utilizing distributed hash table for indexing and identifying peers and objects where performance of content discovery, retrieval and delivery is critical, and the overlaid data structure would have enhanced overall reliability and fault-tolerance of the computing systems under different network topologies (See Pabla: BACKGROUND OF THE INVENTION and Xie: "Summary and Future Work").

As per claim 17, Pabla teaches "A method for passing data through a data overlay" (See Page 36, [0456] where virtual network overlay is established on top of physical network allowing peers to interact and organize their network location and connectivity), comprising:

"providing a distributed hash table (DHT) that governs the insertion and retrieval of objects into and from a peer-to-peer system, wherein the distributed hash table includes a logical space including a plurality of DHT nodes having a plurality of associated DHT zones" (See Page 6, [0085] and [0091]-[0092] where distribution index is a distributed hash table, peers are inserted into the index, and content is hashed for retrieving from or inserting into the index); and

"building a data overlay as a data structure" (See Page 36, [0456] where virtual network overlay is established on top of physical network).

Pabla does not explicitly teach that the data overlay is built "on top of the logical space of the distributed hash table by associating objects in the data structure with the DHT nodes, and by establishing links between the objects in the data structure, wherein the data overlay defines a plurality of interconnected nodes".

However, Xie teaches overlaying together of different topologies such as Chord rings networks at Page 6, lines 1-3 and further teaches logical space naming all peers where DHT is utilized to hash the name of a node and each node handles a portion of the hash space for storing certain range of keys serving as basis for object retrieval and storage at Page 4, items 4.1 and 4.2.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine the teaching of Xie with Pabla reference by overlaying topologies on top of logical space because both references are directed to peer to peer system utilizing distributed hash table for indexing and identifying peers and objects where performance of content discovery, retrieval and delivery is critical,

and the overlaid data structure would have enhanced overall reliability and fault-tolerance of the computing systems under different network topologies (See Pabla: BACKGROUND OF THE INVENTION and Xie: "Summary and Future Work").

The combined teaching of the Xie and Pabla references further teaches "routing data through the data overlay by passing the data through its interconnected nodes" (See Pabla: Page 36, [0456] where virtual network overlay is established on top of physical network allowing peers to interact and organize their network location and connectivity).

As per claim 15, Pabla teaches "A computer readable store having stored thereon a data structure" (See Fig. 2, Page 36, [0456] and Page 10, [0124] where virtual network overlay is established on top of physical network allowing peers to interact and organize their network location and connectivity and layers of a peer to peer software architecture platform is described), comprising:

"a logical space of a distributed hash table (DHT), including a plurality of DHT nodes having a plurality of associated DHT zones, wherein the distributed hash table governs the insertion and retrieval of objects into and from a peer-to-peer system" (See Page 6, [0085] and [0091]-[0092] where distribution index is a distributed hash table, peers are inserted into the index, and content is hashed for retrieving from or inserting into the index); and

"a data overlay implemented as a data structure" (See Page 36, [0456] where virtual network overlay is established on top of physical network).

Pabla does not explicitly teach that the data overlay is built "on top of the logical space of the distributed hash table logical space, wherein the data overlay uses services provided by the distributed hash table in routing from one object to another in the data structure".

However, Xie teaches overlaying together of different topologies such as Chord rings networks at Page 6, lines 1-3 and further teaches logical space naming all peers where DHT is utilized to hash the name of a node and each node handles a portion of the hash space for storing certain range of keys serving as basis for object retrieval and storage at Page 4, items 4.1 and 4.2.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine the teaching of Xie with Pabla reference by overlaying topologies on top of logical space because both references are directed to peer to peer system utilizing distributed hash table for indexing and identifying peers and objects where performance of content discovery, retrieval and delivery is critical, and the overlaid data structure would have enhanced overall reliability and fault-tolerance of the computing systems under different network topologies (See Pabla: BACKGROUND OF THE INVENTION and Xie: "Summary and Future Work").

As per claim 23, Pabla teaches "A peer-to-peer system including a plurality of machines interacting in peer-to-peer fashion" (See Page 36, [0456] where virtual network overlay is established on top of physical network allowing peers to interact and organize their network location and connectivity), comprising:

"a logical space of a distributed hash table (DHT), including a plurality of DHT nodes having a plurality of associated DHT zones, wherein the distributed hash table governs the insertion and retrieval of objects into and from the peer-to-peer system" (See Page 6, [0085] and [0091]-[0092] where distribution index is a distributed hash table, peers are inserted into the index, and content is hashed for retrieving from or inserting into the index); and

"a data overlay implemented as a data structure" (See Page 36, [0456] where virtual network overlay is established on top of physical network).

Pabla does not explicitly teach that the data overlay is built "on top of the logical space of the distributed hash table, wherein the data overlay uses services provided by the distributed hash table in routing from one object to another in the data structure, wherein the logical space of the distributed hash table and the data overlay are implemented in distributed fashion in respective stores of the plurality of machines in the peer-to-peer system".

However, Xie teaches overlaying together of different topologies such as Chord rings networks at Page 6, lines 1-3 and further teaches logical space naming all peers where DHT is utilized to hash the name of a node and each node handles a portion of the hash space for storing certain range of keys serving as basis for object retrieval and storage at Page 4, items 4.1 and 4.2.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine the teaching of Xie with Pabla reference by overlaying topologies on top of logical space because both references are directed to

peer to peer system utilizing distributed hash table for indexing and identifying peers and objects where performance of content discovery, retrieval and delivery is critical, and the overlaid data structure would have enhanced overall reliability and fault-tolerance of the computing systems under different network topologies (See Pabla: BACKGROUND OF THE INVENTION and Xie: "Summary and Future Work").

As per claim 2, the combined teaching of Xie and Pabla references teaches each link including:

"a first field that provides a hardwired pointer that points from a first object to a second object" (See Pabla: Page 1, [0011]-[0012] wher hierarchical data structure is implemented for locating content node and node information is hashed to route one node from another); and

"a second field that provides a soft-state pointer that points from the first object to a DHT node which hosts the second object" (See Pages 1-2, [0015] where user identity is hashed to generate a key/value pair for routing from the requesting peer to the destination peer).

As per claim 3, the combined teaching of Xie and Pabla references teaches the building of the data overlay makes use of:

"a first primitive for setting a reference that establishes a pointer to an object in the distributed hash table" (See Pabla: Page 4, [0066] where queries and content is routed through one or more nodes in the distributed index);

a second primitive for returning an object referenced by a pointer" (See Pabla: Page 4, [0067] where the node for a content supposed to be stored is indicated by the hashed key value of the node); and

"a third primitive for deleting an object referenced by a pointer" (See Pabla: Page 9, [0111] where message is deleted from the messaging distributed index).

As per claim 4, the combined teaching of Xie and Pabla references teaches "The method according to claim 1, wherein the data overlay has a topology of a tree, the tree having a plurality of tree nodes associated with respective DHT nodes, wherein each tree node has a respective tree node zone associated therewith which corresponds to a part of the logical space of the distributed hash table" (See Pabla: Page 6, [0085], 0091]-[0092], Pa 36, [0456] and Page 54, [0685] and Xie: Page 6, lines 1-3 where tree structure is established when distribution index is a distributed hash table, peers are inserted into distributed index and higher level of abstraction is established on top of the network topologies).

As per claim 5, the combined teaching of Xie and Pabla references teaches "each tree node in the data overlay includes a key member which identifies a key associated with its respective tree node zone" (See Pabla: Page 1, [0012] where key is mapped to node in the distribution hash table).

As per claim 6, the combined teaching of Xie and Pabla references teaches "the key has a value that is a function of coordinates that identify the center of the respective tree node zone" (See Pabla: Page 3, [0062]-[0064] where peers are responsible for a zone, a range of key values, generated by a hash function and peers utilize routing mechanism and connection topology to route from one zone to another, further hashing a center value in a zone is inherent in a hash function).

As per claim 7, the combined teaching of Xie and Pabla references teaches "each tree node in the data overlay includes an operation member which defines an operation that is to be performed on data that is passed through the tree node" (See Pabla: Page 54, [0679] where peer may be a router peer to route message for an adaptive peer to peer network).

As per claim 8, the combined teaching of Xie and Pabla references teaches "each tree node in the data overlay includes a report member which defines a report type that is to be generated using the tree node" (See Pabla: Page 6, [0092] where peers are registered to be notified when new peer joining the distributed index).

As per claim 9, the combined teaching of Xie and Pabla references teaches "the building of the data overlay comprises: establishing a root tree node, the root tree node having a tree node zone corresponding to an entire span of the logical space of the

distributed hash table" (See Pabla: Page 27, [0321] where root of peer group is defined).

As per claim 10, the combined teaching of Xie and Pabla references teaches "the building of the data overlay comprises: examining a tree node zone associated with a particular tree node to determine whether the tree node zone is smaller than or equal to a DHT zone associated with the particular tree node's hosting DHT node" (See Pabla: Page 1, [0012] and Page 3, [0062] where each node in the distributed hash table store a range of the table for routing a node to be inserted into the desired range decided by a hash function); and "adding a child node associated with the particular tree node if the examining determines that the tree node zone is not smaller than or equal to the associated DHT zone" (See Pabla: Page 1, [0012] and Page 3, [0062] where each node in the distributed hash table store a range of the table for routing a node to be inserted into the desired range decided by a hash function).

As per claim 11, the combined teaching of Xie and Pabla references teaches "repeating the examining and the adding for each tree node in the tree" (See Pabla: Page 16, [0182] where peer is identified for membership in a peer group).

As per claim 12, the combined teaching of Xie and Pabla references teaches "A computer readable store including machine readable instructions for implementing the building of objects in the data overlay" (See Pabla: Page 36, [0456] where overlay is

built on physical network and its machine readable instructions for implementation is inherent in a computer system).

As per claim 14, the combined teaching of Xie and Pabla references teaches "A computer readable store having stored thereon a data overlay having the topology of a tree produced" (See Pabla: Page 36, [0456] where overlay is built on physical network showing a tree structure where network is a layer below data overlay).

As per claim 13, the combined teaching of Xie and Pabla references teaches "A computer readable store having stored thereon a data overlay produced according to the method of claim 1" (See Pabla: Page 44, [0554] where database is implemented and at Page 36, [0456] where overlay is built as a data structure).

As per claim 16, the combined teaching of Xie and Pabla references teaches "The distributed computer readable store of claim 15, wherein the data overlay has a topology of a tree, the tree having a plurality of tree nodes associated with respective DHT nodes, wherein each tree node has a respective tree node zone associated therewith which corresponds to a part of the logical space of the distributed hash table" (See Pabla: Page 6, [0085], 0091]-[0092], Pa 36, [0456] and Page 54, [0685] and Xie: Page 6, lines 1-3 where tree structure is established when distribution index is a distributed hash table, peers are inserted into distributed index and higher level of abstraction is established on top of the network topologies).

As per claim 18, the combined teaching of Xie and Pabla references teaches "The method according to claim 17, wherein the data overlay has a topology of a tree, the tree having a plurality of tree nodes associated with respective DHT nodes, wherein each tree node has a respective tree node zone associated therewith which corresponds to a part of the logical space of the distributed hash table" (See Pabla: Page 6, [0085], 0091]-[0092], Pa 36, [0456] and Page 54, [0685] and Xie: Page 6, lines 1-3 where tree structure is established when distribution index is a distributed hash table, peers are inserted into distributed index and higher level of abstraction is established on top of the network topologies).

As per claim 19, the combined teaching of Xie and Pabla references teaches "the routing of data through the data overlay includes gathering data from DHT nodes and passing the data up through the tree nodes to a root node of the tree" (See Pabla: Page 36, [0456]-[0457] and Xie: Fig. 1 where overlay data structure is a virtual network allowing peer to peer link established via distributed applications).

As per claim 20, the combined teaching of Xie and Pabla references teaches "The method according to claim 18, wherein the routing of data through the data overlay includes disseminating data from a root node of the tree, through the tree nodes, to the DHT nodes" (See Pabla: Page 36, [0456]-[0457] and Xie: Fig. 1 where overlay data

structure is a virtual network allowing peer to peer link established via distributed applications).

As per claim 21, the combined teaching of Xie and Pabla references teaches "The method according to claim 18, wherein each tree node includes an operation member which defines an operation that is to be performed on data that is passed through the tree node" (See Pabla: Page 36, [0456]-[0457] and Xie: Fig. 1 where overlay data structure is a virtual network allowing peer to peer link established via distributed applications, a defined operation).

As per claim 22, the combined teaching of Xie and Pabla references teaches "A computer readable store including machine readable instructions for implementing the routing of data through the data overlay" (See Pabla: Page 36, [0456]-[0457] and Xie: Fig. 1 where overlay data structure is a virtual network allowing peer to peer link established via distributed applications and machine readable instructions for implementation is inherent of a computer system).

As per claim 24, the combined teaching of Xie and Pabla references teaches "The system according to claim 23, wherein the data overlay has a topology of a tree, the tree having a plurality of tree nodes associated with respective DHT nodes, wherein each tree node has a respective tree node zone associated therewith which corresponds to a part of the logical space of the distributed hash table" (See Pabla:

Page 6, [0085], 0091]-[0092], Pa 36, [0456] and Page 54, [0685] and Xie: Page 6, lines 1-3 where tree structure is established when distribution index is a distributed hash table, peers are inserted into distributed index and higher level of abstraction is established on top of the network topologies).

As per claim 25, the combined teaching of Xie and Pabla references teaches "including routing logic configured to route data through the data overlay by passing the data through the tree nodes" (See Pabla: Page 36, [0456]-[0457] and Xie: Fig. 1 where overlay data structure is a virtual network allowing peer to peer link established via distributed applications, a defined operation).

As per claim 26, the combined teaching of Xie and Pabla references teaches "The system according to claim 25, wherein the routing logic is configured to route the data through the data overlay by gathering data from DHT nodes and passing the data up through the tree nodes to a root node of the tree" (See Pabla: Page 36, [0456]-[0457] and Xie: Fig. 1 where overlay data structure is a virtual network allowing peer to peer link established via distributed applications).

As per claim 27, the combined teaching of Xie and Pabla references teaches "The system according to claim 25, wherein the routing logic is configured to route data through the data overlay by disseminating data from a root node of the tree, through the tree nodes, to the DHT nodes" (See Pabla: Page 36, [0456]-[0457] and Xie: Fig. 1

where overlay data structure is a virtual network allowing peer to peer link established via distributed applications).

Conclusion

7. The prior art made of record

A. U.S. Patent Application 2004/0064693

U. Ming Xie: B2P Systems Based on Distributed Hash Table", Ming Xie, Computer Science, University of Ottawa, September 26, 2003

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

V. Vinod Muthusamy: An Introduction to Peer-to-Peer Networks, Presentation for MIE456 – Information Systems Infrastructure II, October 30, 2003

B. U.S. Patent No. 7,054,867

C. U.S. Patent Application 2005/0219929

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuen S Lu whose telephone number is (571) 272-4114. The examiner can normally be reached on Monday-Friday (8:00 am-5:00 pm). If attempts to reach the examiner by telephone pre unsuccessful, the examiner's Supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for Page 13 published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll-free).

Kuen S. Lu

Patent Examiner, Art Unit 2167

August 4, 2006